# Appendix J: Project Cost Opinions



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#### Individual Project Cost Opinions

Tables 26 through 29 list the recommended projects by category and include planning-level cost opinions.

Table 26: Planning-Level Cost Opinions for Bicycle Routes<sup>1</sup>

Street	From	То	Miles	Cost
N 107TH ST	W Appleton Ave	W Mill Rd	0.49	\$2,400
S 13TH ST	W Layton Ave	W Grange Ave	1.00	\$5,000
N 27TH ST	W Clybourn St	W Highland Ave	0.58	\$2,900
N 35TH ST	W Hope Ave	W Congress St	0.25	\$1,300
N 45TH ST	W Blue Mound Rd	W Wisconsin Ave	0.09	\$500
N 68TH ST	W Center St	W Burleigh St	0.51	\$2,500
W AIR CARGO WA	S Howell Ave	S 6th St	0.50	\$2,500
W BLUE MOUND RD	N 45th St	N Story Pkwy	0.17	\$800
W BURNHAM ST	S 20th St	S Muskego Ave	0.10	\$500
S HOWELL AV	E Citation Way	E College Ave	0.56	\$2,800
N HUMBOLT AV	E Kane PI	N Commerce St	0.15	\$800
E LINCOLN AV	S Kinnickinnic Ave	S Bay St	0.43	\$2,200
E OKLAHOMA AV	S Howell Ave	S Clement Ave	0.51	\$2,600
W PIERCE ST	W Reynolds Pl	S 26th St	0.05	\$300
W ROOSEVELT DR	W Capitol Dr	W Burleigh St	1.81	\$9,100
W STATE ST	N 27th St	N 35th St	0.51	\$2,500
N TERRACE AV	E North Ave	N Wahl Ave	0.07	\$400
N TEUTONIA AV	S of W Mill Road Ct	W Mill Road Ct	0.04	\$200
N WAHL AV	N Terrace Ave	N Lake Dr	0.62	\$3,100
E WATER TOWER RD	N Terrace Ave	N Lincoln Memorial Dr	0.30	\$1,500

Additional route details are included in Chapter 3.

**Table 27: Planning-Level Cost Opinions for Bicycle Lanes** 

Street	From	То	Miles	Cost
N 107TH ST	W Hampton Ave	W Silver Spring Dr	1.00	\$39,000
S 11TH ST	W Bruce St	W Grant St	1.43	\$55,000
N 12TH ST	W Wisconsin Ave	W State St	0.11	\$4,000
N 12TH ST	W Jeneau Ave	W Cherry St	0.31	\$12,000
N 12TH ST	W Walnut St	W North Ave	0.50	\$19,000
N 13TH ST	W Mount Vernon Ave	W Clybourn St	0.14	\$5,000
S 13TH ST	W Arthur Ave	W Layton Ave	2.76	\$106,000
N 16TH ST	W Canal St	W Clybourn St	0.32	\$12,000
S 16TH ST	W Canal St	W Pierce St	0.50	\$19,000
S 16TH ST	W Mitchell St	S Amy PI	0.18	\$7,000
S 16TH ST	W Forest Home Ave	W Windlake Ave	0.63	\$24,000
N 20TH ST	W St Paul Ave	W Wisconsin Ave	0.03	\$10,000
N 20TH ST	W Jeneau Ave	W Cherry St	0.27	\$11,000
N 20TH ST	W Meinecke Ave	W Clarke St	0.25	\$10,000
		W Villard Ave	2.88	
N 20TH ST	W Hadley St			\$111,000
S 20TH ST	W Pierce St	S Muskego Ave	0.83	\$32,000
S 20TH ST	W Burnham St	W Becher St	0.24	\$9,000
S 20TH ST	W Hayes Ave	W Layton Ave	2.86	\$110,000
S 20TH ST	W Klein Ave	City Border (~ W Aspen St)	1.47	\$57,000
N 27TH ST	W Jeneau Ave	W Galena St	0.38	\$15,000
N 27TH ST	W Lisbon Ave	W Fon du Lac	0.96	\$37,000
S 2ND ST	Menomonee River	W Maple St	1.46	\$56,000
N 35TH ST	W Wisconsin Ave	W State St	0.40	\$15,000
S 35TH ST	W Scott St	W Pabst Ave	1.50	\$58,000
S 3RD ST	W National Ave	W Maple St	0.84	\$32,000
S 43RD ST	W Lincoln Ave	South	0.18	\$7,000
N 43RD ST	W Silver Spring Dr	N Sherman Bl	0.36	\$14,000
N 51ST ST	W Capitol Dr	W Silver Spring Dr	2.03	\$78,000
N 64TH ST	W Silver Spring Dr	W Mill Rd	1.01	\$39,000
N 68TH ST	W Fairview Ave	City Border (~W Mt Vernon Ave)	0.19	\$7,000
N 68TH ST	W Lisbon Ave	North	0.02	\$1,000
N 68TH ST	W Vienna Ave	W Florist Ave	2.81	\$108,000
S 68TH ST	W Fairview Ave	W Dickinson St	0.47	\$18,000
S 68TH ST	City Border (~W Arthur Ave)	W Forest Home Ave	1.96	\$76,000
N 6TH ST	W Michigan St	W State St	0.38	\$15,000
N 6TH ST	W Juneau St	W Court St	0.32	\$12,000
N 6TH ST	W Vine St	W Brown St	0.18	\$7,000
S 6TH ST	W Oregon St	S Chase Ave	1.65	\$63,000
S 6TH ST	W Hayes Ave	W Rosedale Ave	0.45	\$17,000
S 6TH ST	W Euclid Ave	W Air Cargo Way	2.99	\$115,000
S 76TH ST	W Oklahoma Ave	City Border (~W Waterford Ave)	1.27	\$49,000
S 84TH ST	W Oklahoma Ave	W Howard Ave	1.00	\$39,000
S 92ND ST	W Oklahoma Ave	W Howard Ave	1.00	\$39,000
N 91ST ST	W Mill Rd	W Good Hope Rd	1.10	\$42,000
N 92ND ST	W Congress St	W Grantosa Dr.	0.18	\$7,000
S ALEXANDER ST	Roundabout	W Virginia St	0.05	\$2,000
E BAY ST	S Kinnickinnic Ave	S Lenox St	0.46	\$18,000
S BAY ST	S Lenox St	E Russell Ave	0.61	\$24,000
E BRADFORD AV	N Farwell Ave	N Downer Ave	0.01	\$7,000
W BRADLEY RD	N Green Bay Rd	City Border	0.18	\$14,000
W BRADLEY RD	N 51st St	N 124th St	4.51	\$174,000
M DUVDEL UD	וא טופנ טנ	IN IZHUI OL	4.01	φ174,000

Street	From	То	Miles	Cost
N BROADWAY	Milwaukee River	E Erie St	0.08	\$3,000
W BROWN DEER RD	City Border	N 124th St	3.52	\$135,000
W BRUCE ST	S 9th St	S 17th St	0.60	\$23,000
E BUFFALO ST	N Water St	N Jefferson St	0.22	\$8,000
E BUFFALO ST	N Jackson St	N Van Buren St	0.06	\$2,000
W BURLEIGH ST	N 5th St	N Teutonia Ave	0.75	\$29,000
W BURLEIGH ST	N 68th St	W Lisbon Ave	0.20	\$8,000
W BURLEIGH ST	N Menomonee River Pkwy	City Border	0.15	\$6,000
S CESAR E CHAVEZ DR	W Pierce St	W Mitchell St	0.82	\$32,000
E CHERRY ST	N Riverwalk Way	N Water St	0.05	\$2,000
W CHERRY ST	N Riverwalk Way	N 6th St	0.40	\$16,000
W CONGRESS ST	N 51st Blvd	N 92nd St	2.63	\$101,000
E CORCORAN AV	E Erie St	N Jackson St	0.15	\$6,000
W COUNTY LINE RD	City Border	N 124th St	3.56	\$137,000
N DOWNER AV	N Lake Dr	E Locust St	0.59	\$23,000
N DOWNER AV	E Hampshire St	E Edgewood Ave	0.43	\$17,000
N EMMBER LA	W Canal St	W Mt Vernon Ave	0.20	\$8,000
W FLAGG AV	W Fon du Lac Ave	W Florist Ave	0.09	\$3,000
W FLORIDA ST	S 1st St	S 5th St	0.29	\$11,000
E FLORIDA ST	S 1st St	S Water St	0.25	\$10,000
W FLORIST AV	N Teutonia Ave	N Sherman Blvd	0.72	\$28,000
W FLORIST AV	W Flagg Ave	N 60th St	1.76	\$68,000
W FLORIST AV	W Appleton Ave	N 124th St	1.00	\$38,000
W FOREST HOME AV	S 54th St	City Border	0.06	\$2,000
W FOREST HOME AV	City Border	City Border	0.93	\$36,000
W TOREST HOWE AV	S Howell Ave	I-94	1.33	\$51,000
W GRANGE AV	S 25th St	S 27th St	0.13	\$5,000
W GRANTOSA DR	N 68th St	N 92nd St	1.92	\$74,000
W GRANTOSA DR	W Congress St	W Marion St	0.26	\$10,000
W GRANTOSA DR	City Border	W Capitol Dr	0.28	\$15,000
W GREENFIELD AV	S Layton Blvd	S 36th St	0.56	\$21,000
	· ·	N Santa Monica Blvd		
E HAMPTON AV	W Hampton Ave		0.19	\$7,000
W HAMPTON AV W HAMPTON AV	E Hampton Ave Milwaukee River	N Port Washington Rd N Milwaukee River Pkwy	0.31	\$12,000 \$7,000
W HAMPTON AV		N Teutonia Ave	0.18	\$30,000
	N Green Bay Ave			
W HAMPTON AV	N 107th St	N 124th St	1.02	\$39,000
W HISTORIC MITCHELL ST	S 5th St	S 13th St	0.54	\$21,000
W HOLT AV	S Chase Ave	S 6th St	0.50	\$19,000
N HOLTON ST	E Hadly St	E Hope Ave	1.64	\$63,000
W HOPKINS ST	N 13th St	N 31st St	1.87	\$72,000
N HOPKINS ST	W Congress St	W Sheridan Ave	1.47	\$57,000
W HOWARD AV	W Forest Home Ave	S 96th St	2.02	\$78,000
S HOWELL AV	E Wilson St	E Gauer Cir	0.76	\$29,000
S HOWELL AV	E Bradley Ave	E Citation Way	2.71	\$104,000
N HUMBOLDT AV	N Commerce St	E Garfield Ave	0.05	\$2,000
E JUNEAU ST	N Prospect Ave	N Riverwalk Way	0.87	\$34,000
W JUNEAU ST	N Riverwalk Way	N 35th St	2.16	\$83,000
E KNAPP ST	E of N Edison St	N Milwaukee St	0.27	\$11,000
N LAKE DR	E North Ave	N Downer Ave	0.20	\$8,000
E LAYTON AV	S Howell St	S Ahmedi Ave	1.22	\$47,000
W LAYTON AV	S Howell St	I-94	1.26	\$48,000
W LINCOLN AV	S 31st St	City Border	0.79	\$30,000

Table 28: Planning-Level Cost Opinions for Bicycle Boulevard Corridors<sup>1</sup>

N 14th St - N 15th St S 21st St S 21st St S 23rd St D .5 S 315,000 S 28th St S 2000 N 28th St S 2000 N 28th St D .92 S 28,000 S 26th St - S 29th St S 2.5 S 77,000 N 32nd St - N 31st St D .39 S 12,000 N 35th St S 37th St S 32th St - S 29th St S 2.25 S 69,000 N 42nd St - N Grant Blvd D .97 S 30,000 N 52nd St - N 54th St S 2.25 S 69,000 N 42nd St - N Grant Blvd D .97 S 30,000 N 52nd St - N 54th St S 2.24 S 69,000 N 52nd St - N 54th St S 2.25 S 69,000 N 52nd St - N 54th St S 2.24 S 69,000 N 85th St S 2.25 S 68,000 N 84th St - N 86th St D .76 S 23,000 N 84th St - N 86th St D .76 S 23,000 N 84th St - N 86th St D .76 S 22,000 N 84th St - N 86th St D .72 S 22,000 N Cambridge Ave D .72 S 22,000 W Champers St D .31 S 9,000 W Cherry St D .31 S 9,000 W Courtland Ave - W Cornell St D .84 S 2.000 W Fairmount Ave - W Cornell St D .84 S 2.000 N Faitnort Ave - W Dixon St D .85 D .84 S 2.000 N Faitnort Ave - W Dixon St D .85 D .84 S 2.000 N Faitnort Ave - W Dixon St D .85 D .84 S 2.000 N Faitnort Ave - W Dixon St D .85 D .85 D .84 S 2.000 N Faitnort Ave - W Dixon St D .85 D .85 D .85 D .85 D .85 D .86 D .87 D .85 D .85 D .85 D .85 D .86 D .86 D .87	Route	Miles	Cost
S 23rd St       2.01       \$62,000         N 26th St       0.92       \$28,000         S 26th St       5,77000         N 32nd St       9.39       \$12,000         N 32nd St       0.39       \$12,000         N 35th St       0.38       \$12,000         S 37th St       1.42       \$44,000         N 42nd St       2.25       \$69,000         N 42nd St       1.42       \$44,000         N 52nd St       1.42       \$44,000         N 42nd St       2.25       \$69,000         N 52nd St       1.42       \$44,000         N 52nd St       1.54       \$43,000         N 52nd St       1.54       \$43,000         N 52nd St       1.54       \$43,000         N 66th St       1.39       \$43,000         N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         E Brown St       1.14       \$35,000         E Brown St       1.22       \$46,000         W Chambers St       1.52       \$47,000         W Chambers St       1.52       \$47,000         W Courts Ave       0.31       \$9,000         W Courts Ave	N 14th St - N 15th St	1.68	\$52,000
N 26th St       0.92       \$28,000         S 26th St - S 29th St       2.5       \$77,000         N 32nd St - N 31st St       0.39       \$12,000         N 35th St       0.38       \$12,000         S 37th St       1.42       \$44,000         N 42nd St       2.25       \$69,000         N 42nd St - N Grant Blvd       0.97       \$30,000         N 52nd St - N 54th St       2.24       \$69,000         N 52nd St - W Glendale Ave       1.39       \$43,000         N 66th St       0.76       \$23,000         N 84th St - N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         N 86th St       1.14       \$35,000         N 86th St       1.14       \$36,000         W Campros St       1	S 21st St	0.5	\$15,000
S 26th St - S 29th St       2.5       \$77,000         N 32nd St - N 31st St       0.39       \$12,000         N 35th St       0.38       \$12,000         S 37th St       1.42       \$44,000         N 42nd St       2.25       \$69,000         N 42nd St - N Grant Blvd       0.97       \$30,000         N 52nd St - N 54th St       2.24       \$69,000         N 53rd St - W Glendale Ave       1.39       \$43,000         N 66th St       0.76       \$23,000         N 86th St       2.2       \$88,000         N Cambridge Ave       0.72       \$22,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Courtland Ave - W Cornell St       1.18       \$36,000         W Fairview Ave - W Dixon St       1.65       \$51,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Hopkins St - N Sherman Blvd<	S 23rd St	2.01	\$62,000
N 32nd St - N 31st St       0.39       \$12,000         N 35th St       0.38       \$12,000         S 37th St       1.42       \$44,000         N 42nd St       2.25       \$69,000         N 42nd St - N Grant Blvd       0.97       \$30,000         N 52nd St - N 54th St       2.24       \$69,000         N 53rd St - W Glendale Ave       1.39       \$43,000         N 66th St       0.76       \$23,000         N 84th St - N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         E Brown St - W Brown St       3.21       \$99,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Fairmount Ave - W Camero Ave       1.18       \$36,000         W Fairmount Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         W Harriford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000	N 26th St	0.92	\$28,000
N 35th St	S 26th St - S 29th St	2.5	\$77,000
S 37th St	N 32nd St - N 31st St	0.39	\$12,000
N 42nd St N Grant Blvd 0.97 \$30,000 N 42nd St - N Grant Blvd 0.97 \$30,000 N 52nd St - N Grant Blvd 0.97 \$30,000 N 52nd St - N 54th St 2.24 \$69,000 N 53rd St - W Glendale Ave 1.39 \$43,000 N 66th St 0.76 \$23,000 N 84th St - N 86th St 2.22 \$68,000 N 84th St - N 86th St 2.22 \$68,000 N 84th St - N 86th St 1.14 \$35,000 E Brown St - W Brown St 1.14 \$35,000 E Brown St - W Brown St 1.14 \$35,000 W C Ambers St 1.52 \$47,000 W C Ambers St 1.39 \$43,000 W Fairmount Ave - W C Ambers Ave 1.33 \$41,000 W Fairmount Ave - W Dixon St 1.65 \$51,000 N F Fratney St - E Meinecke - N Brement St 2.06 \$63,000 E Hartford Ave 0.97 \$30,000 N H Hopkins St - N Sherman Blvd 1.73 \$53,000 W Locust St - N 72nd St 1.4 \$43,000 W M Amintoba St 0.84 \$26,000 W M Amintoba St 0.84 \$26,000 W M Amintoba St 0.84 \$26,000 W M M K Kinley Ave 1.25 \$38,000 W M M Shaft St - W Virginia St 2.66 \$82,000 W M Shaft St - W Virginia St 2.66 \$82,000 E Reservoir Ave 4 W Buldwin St 0.45 \$14,000 W Flaton St 0.45 \$14,000 W W Ruby Ave - W Baldwin St 0.45 \$14,000 W W Ruby Ave - W Baldwin St 0.45 \$14,000 W W Shaft St 4 \$0.45 \$14,000 W W Ruby Ave - W Baldwin St 0.45 \$14,000 W W State St 0.59 \$18,000	N 35th St	0.38	\$12,000
N 42nd St - N Grant Blvd N 52nd St - N 54th St St - N 54th St St - R 54th St - R 54th St St - R 54th St St - R 54th St - R 54th St St - R 54th St - R 54th St St - R	S 37th St	1.42	\$44,000
N 52nd St - N 54th St       2.24       \$69,000         N 53rd St - W Glendale Ave       1.39       \$43,000         N 66th St       0.76       \$23,000         N 84th St - N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         E Brown St - W Brown St       3.21       \$99,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Cairmount Ave - W Camero Ave       1.18       \$36,000         W Fairriview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Manitoba St       1.4       \$43,000         W M Kinley Ave       1.25       \$33,000         W M Kinley Ave       1.25       \$33,000         W N Sah St - W Virginia St       2.66       \$82,000         W Ruby Ave - W Baldwin St       0.45       <	N 42nd St	2.25	\$69,000
N 53rd St - W Glendale Ave       1.39       \$43,000         N 66th St       0.76       \$23,000         N 84th St - N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         E Brown St - W Brown St       3.21       \$99,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Congress St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Mc Kinley Ave       1.25       \$38,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.54       \$47,000         W Palmer St       1.54       \$47,000 <td>N 42nd St - N Grant Blvd</td> <td>0.97</td> <td>\$30,000</td>	N 42nd St - N Grant Blvd	0.97	\$30,000
N 66th St       0.76       \$23,000         N 84th St - N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         E Brown St - W Brown St       3.21       \$99,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairnount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Ma Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.25       \$38,000         W Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66	N 52nd St - N 54th St	2.24	\$69,000
N 84th St - N 86th St       2.2       \$68,000         N 86th St       1.14       \$35,000         E Brown St - W Brown St       3.21       \$99,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.54       \$47,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24	N 53rd St - W Glendale Ave	1.39	\$43,000
N 86th St	N 66th St	0.76	\$23,000
E Brown St - W Brown St       3.21       \$99,000         N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairriount Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Maxingey Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	N 84th St - N 86th St	2.2	\$68,000
N Cambridge Ave       0.72       \$22,000         W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       2.66       \$82,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	N 86th St	1.14	\$35,000
W Chambers St       1.52       \$47,000         W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$55,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	E Brown St - W Brown St	3.21	\$99,000
W Cherry St       0.31       \$9,000         W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Nash St - W Vienna Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	N Cambridge Ave	0.72	\$22,000
W Congress St       0.84       \$26,000         W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Chambers St	1.52	\$47,000
W Courtland Ave - W Cornell St       1.39       \$43,000         W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Cherry St	0.31	\$9,000
W Custer Ave       1.18       \$36,000         W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Congress St	0.84	\$26,000
W Fairmount Ave - W Camero Ave       1.33       \$41,000         W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Courtland Ave - W Cornell St	1.39	\$43,000
W Fairview Ave - W Dixon St       1.65       \$51,000         N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Custer Ave	1.18	\$36,000
N Fratney St - E Meinecke - N Brement St       2.06       \$63,000         E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Fairmount Ave - W Camero Ave	1.33	\$41,000
E Hartford Ave       0.97       \$30,000         N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Fairview Ave - W Dixon St	1.65	\$51,000
N Hopkins St - N Sherman Blvd       1.73       \$53,000         W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	N Fratney St - E Meinecke - N Brement St	2.06	\$63,000
W Locust St - N 72nd St       1.4       \$43,000         W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	E Hartford Ave	0.97	\$30,000
W Manitoba St       0.84       \$26,000         W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	N Hopkins St - N Sherman Blvd	1.73	\$53,000
W Mc Kinley Ave       1.25       \$38,000         W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Locust St - N 72nd St	1.4	\$43,000
W Nash St - W Vienna Ave       1.32       \$41,000         N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Manitoba St	0.84	\$26,000
N Palmer St       1.54       \$47,000         W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Mc Kinley Ave	1.25	\$38,000
W Pierce At - W Bruce St - W Virginia St       2.66       \$82,000         E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Nash St - W Vienna Ave	1.32	\$41,000
E Reservoir Ave       0.24       \$8,000         W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	N Palmer St	1.54	\$47,000
W Ruby Ave - W Baldwin St       0.45       \$14,000         W State St       0.59       \$18,000	W Pierce At - W Bruce St - W Virginia St	2.66	\$82,000
W State St 0.59 \$18,000	E Reservoir Ave	0.24	\$8,000
	W Ruby Ave - W Baldwin St	0.45	\$14,000
E Waterford Ave - W Bolivar Ave 1.52 \$47,000	W State St	0.59	\$18,000
	E Waterford Ave - W Bolivar Ave	1.52	\$47,000
E Wright St - W Wright St 4.26 \$131,000	E Wright St - W Wright St	4.26	\$131,000

<sup>1</sup> Route details are included in Chapter 3 and the maps and GIS data accompanying this plan

Table 29: Planning-Level Cost Opinions for Raised Bike Lanes

Street	From	То	Miles	Cost
N 16TH ST	W Canal St	W Clybourn St	0.32	\$71,000
S 16TH ST	W Canal St	W Pierce St	0.50	\$111,000
N 27TH ST	W Canal St	W St Paul St	0.23	\$51,000
S 27TH ST	W Canal St	S Layton Blvd	0.28	\$62,000
S LAYTON BLVD	S 27th St	W Pierce St	0.23	\$51,000
N LAKE DR	E Bradford Ave	E Edgewood Ave	1.36	\$303,000
N 35TH ST	I94 Ramps	W Park Hill Ave	0.08	\$18,000
S 35TH ST	I94 Ramps	W National Ave	0.68	\$151,000
E BAY ST	S Kinnickinnic Ave	S Bay St	0.46	\$102,000
S BAY ST	E Bay St	E Russell Ave	0.61	\$136,000

#### Maintenance Costs

On-street bikeways require regular maintenance and repair as previously discussed in Chapter 4. In Milwaukee on-street bikeways are maintained as part of standard roadway maintenance programs. Extra emphasis should be placed on keeping bike lanes and roadway shoulders clear of debris and keeping vegetation overgrowth from blocking visibility or creeping into the roadway as bicycle riders are more susceptible to poor roadway conditions than motorists. Typical maintenance costs for each proposed facility type of on-street bikeway facilities are shown in Table 30.

**Table 30: Maintenance Cost Opinions by Facility Type** 

Item Description	Unit	QTD.	<b>Unit Price</b>	Notes
Bike Route				
Sign replacement	EA	25	\$250	every 10 years
Patching	LF	10,560	\$0.04	2 times/year
Cost per Mile			\$1,025	
Annual Maintenance Cost per LF:	\$0.19			
Bike Lane				
Re-striping	LF	10,560	\$0.02	2 lanes
Sign replacement	EA	25	\$250	every 10 years
Patching	LF	10,560	\$0.04	2 times/year
Cost per Mile			\$6,861	
Annual Maintenance Cost per LF:			\$1.30	
Bicycle Boulevard				
Sign replacement	EA	25	\$250	every 10 years
Patching	LF	10,560	\$0.04	2 times/year
Cost per Mile		\$6,650.00		
Annual Maintenance Cost per LF:			\$1.26	
Raised Bike Lane				
Re-striping	LF	10,560	\$0.02	2 lanes
Sign replacement	EA	25	\$250	every 10 years
Patching	LF	10,560	\$0.04	2 times/year
Sweeping	LF	5,280	\$0.02	Both sides of street
Cost per Mile			\$6,971	
Annual Maintenance Cost per LF:			\$1.32	
Shared Use Path (12')				
Patching	LF	10,560	\$0.04	2 times/year
Repaving	LF	264	\$9.47	\$50,000 every 20 years
Landscaping	SF	21,120	\$1.25	Shoulders
Restriping	LF	5,280	\$1.00	6" Annually
Cost per Mile		\$34,580		
Annual Maintenance Cost per LF:			\$6.55	

Table 31: Current and Future Annual Estimated Bikeway System Maintenance Costs

	Existing Facilities (MI)		Planned & Proposed Facilities (MI)	Proposed Facility Maintenance	Total (MI)	Total System Maintenance
Bike Lanes	52.47	\$360,000	153.36	\$1,052,000	205.83	\$1,404,000
Bike Routes	65.45	\$67,000	9.11	\$10,000	74.56	\$77,000
Bike Boulevards	0.00	\$0	54.07	\$360,000	54.07	\$360,000
Raised Bike Lanes	0.00	\$0	4.77	\$33,000	4.77	\$33,000
Shared Use Paths	3.10	\$107,000	14.38	\$497,000	17.48	\$604,000
Total	121.02	\$534,000	235.67	\$1,952,000	356.72	\$2,486,000

Table 31 shows the expected annual maintenance cost for the entire on-street bikeway system. Items included in the annual cost estimate include restriping bikeways, sign repair and replacement, and a small additional cost for additional spot patching, sign movement and sweeping as necessary. Items not included in this estimate are regular street sweeping, snow removal and regular pavement resurfacing, which occurs approximately every 20 years. Based on the activities included in Table 30, the City currently spends about \$534,000 annually on bikeway maintenance. It is estimated that the annual maintenance budget for the City must increase by about \$1,952,000 dollars when the bikeway system is completely constructed in order to keep the on-street bikeway network in good repair.

#### Estimated Annual Bikeway Spending and System Completion Costs

Though funding for annual bikeway maintenance and the salary of the bicycle and pedestrian coordinator is provided as part of the annual city budget, funding for expansion of the bikeway system and related programs has been accomplished through grants. Table 32 (next page) shows a summary of citywide bicycle related grant funds spent by Milwaukee between 2003 and 2009. The city has spent about ten million dollars on bicycle related projects. About one-tenth of this money, about \$160,000 annually, has been spent on the installation of on-street facilities.

Completing the bikeway system laid out in Chapter 3 within the proposed ten-year time-frame will require about \$688,000 annually in the investment of on-street bikeways. Based on the historic average grant funding allocated to on-street bikeways, the City may need to allocate as much as \$2.5 million dollars in additional funding. Table 33 (next page) illustrates four funding scenarios based on historic low, medium and high levels of grant funding.

Based on the amount of grant funding received over the next ten years, the City of Milwaukee will need to spend between \$7,150,000 and \$4,430,000 to complete the on-street bikeway network proposed in this Plan. One important factor to consider in this analysis is the high cost of dedicated bridge facilities. Table 32 shows that about \$3.5 million or 30% of bikeway funding has been dedicated to the construction and improvement of the Marsupial Bridge. It is possible that grants the City will continue to receive as much money in the future as they have in previous years, if they allocated all of this money to construction of on-street facilities the funding scenarios presented in Table 33 could look significantly different.

Table 32: Bikeway Facility and Program Spending 2003 - 2009

Project Description	Project Category	Program	Year	Total Award
Beer Line Bike/Recreational Trail	Off-Street Trail*	TE/STP-D1	2008	\$170,000
Bike Lane CMAQ #2	Bike Lanes	CMAQ <sup>2</sup>	2009	\$20,000
Bike Lane CMAQ #2	Bike Lanes	CMAQ	2009	\$330,000
Bike Lanes CMAQ #1	Bike Lanes	CMAQ	2006	\$20,000
Bike Lanes CMAQ #1	Bike Lanes	CMAQ	2009	\$480,000
Bike Map	Bike Map*	STP-D	2005	\$75,000
Bike Map	Bike Map Reprint / Design*	STP-D	2008	\$75,000
Bike Parking	Bicycle Racks*	TE/STP-D		\$335,000
Bike Route Spot Improvements	Bicycle Racks*	CMAQ	2003	\$395,000
Bike Route Spot Improvements	Bike Lanes	CMAQ	2005	\$395,000
Holton Streetscape	Bump-outs & Bike Lanes	CMAQ/DCD/BID	2005	\$100,000
Kinnickinnic River Trail2.675	Off-Street Trail*	CMAQ		\$2,675,000
Kinnickinnic River Trail Bridge removal/rehab	Off-Street Trail*	ARRA <sup>3</sup>	2008	\$430,000
Marsupial Bridge	Bike/Pedestrian Bridge*		2004	\$330,000
Marsupial Bridge	Bike/Pedestrian Bridge*		2004	\$2,884,000
Marsupial Bridge Improvements	Bike/Pedestrian Bridge*	HPP <sup>4</sup>	2009	\$800,000
Off Street Bikeway Study	Bike Plan*		2005	\$100,000
Publicity Plan	Bike Plan*	TDM	2004	\$30,000
Southpoint Streetscape (Greenfield Ave)	Bump-outs & Bike Lanes	CMAQ	2005	\$100,000
Update bike plan	Bike Master Plan*	STP-D	2008	\$150,000
	Total City Bike Projects Fund	\$9,894,000		
	Total On-Street Facility Sper	\$1,125,000		
	Average Annual On-Street S	\$160,000		

<sup>\*</sup> Denotes spending not allocated to the expansions of the on-street bikeway network

Table 33: Bikeway Network Funding Scenarios 10-Year Build-Out

Funding Scenario	Percentage of Historic Funding	Average Annual Grant Allocation	Annual Grant Deficit/ Surplus	Net Grant Deficit/ Surplus	Annual City Allotment	Net City Allotment
Low	30%	\$48,000	-\$715,005	-\$7,150,048	\$715,005	\$7,150,048
Medium-Low	50%	\$80,000	-\$683,005	-\$6,830,048	\$683,005	\$6,830,048
Average	100%	\$160,000	-\$603,005	-\$6,030,048	\$603,005	\$6,030,048
High	200%	\$320,000	-\$443,005	-\$4,430,048	\$443,005	\$4,430,048

<sup>(1)</sup> Transportation Enhancement (TE) /Surface Transportation Program-Discretionary (STP-D)

<sup>(2)</sup> Congestion Mitigation and Air Quality

<sup>(3)</sup> American Recovery and Reinvestment Act

<sup>(4)</sup> SAFETY-LU High Priority Project